

The effects of individual and neighborhood socioeconomic status on early nephrology referral for hemodialysis patients

CHIA-TIEN CHANG¹, SHIAO-CHI WU^{1,*}, YEN-NI HUNG², YEE-YUNG NG³, HUI-SHAN CHEN¹

Objectives: Tackling health inequalities is a key concern of public health policy makers. The major purpose of Taiwan's National Health Insurance (NHI) is to reduce the financial barriers to care. It is worth ascertaining if individual and neighborhood socioeconomic inequalities exist in early nephrology referral for hemodialysis patients. **Methods:** This population-based retrospective cohort study examined the incidence of new hemodialysis patients in 2009 as identified from the Taiwan National Health Insurance database and relevant secondary data. Early referral was defined as patients meeting with a nephrologist more than 90 days before initial hemodialysis. Stepwise binomial logistic regression models were performed to examine the effect of individual socioeconomic status (SES) (premium-based monthly salary (NT\$), level of education, and employment status) and neighborhood SES ("average family income and expenditure per household" and "educational attainment of the population aged 15 and over - junior college and above") on early nephrology referral after controlling for demographic characteristics, co-morbid conditions, and characteristics of major health care organizations before referral. **Results:** A total of 7,687 consecutive adult incident hemodialysis patients were identified, and 70.9% of them were referred early. Unemployed patients and those with a lower premium-based monthly salary had significantly lower early referral rates after controlling for other factors (OR=0.81, 95%CI=0.70-0.93; OR=0.84, 95%CI=0.73-0.95). No significant associations were found between neighborhood SES and referral pattern. **Conclusions:** Individual socioeconomic inequalities exist in early nephrology referral for hemodialysis patients despite universal health coverage. The causes of this finding require further investigation. (*Taiwan J Public Health*. 2014;33(1):75-88)

Key Words: early nephrology referral, socioeconomic status, hemodialysis

¹ Institute of Health and Welfare Policy, National Yang-Ming University, No. 155, Sec. 2, Linong St., Beitou Dist., Taipei, Taiwan, R.O.C.

² School of Gerontology Health Management, College of Nursing, Taipei Medical University, Taipei, Taiwan, R.O.C.

³ Division of Nephrology, Department of Medicine, Taipei Veterans General Hospital, Taipei, Taiwan, R.O.C.

* Correspondence author. E-mail: scwu@ym.edu.tw

Received: Jul 8, 2013 Accepted: Jan 15, 2014

DDOI: 10.6288/TJPH201433102058